(6 spp.) and Phyllospadix (3 spp.); Posidonieae containing Posidonia (2 spp.); Potamogetoneae containing Potamogeton (89 spp., 1 new, and numerous hybrids) and Ruppia (1 sp.); Cymodoceae containing Cymodocea (7 spp.) and Diplanthera (2 spp.); and Zannichellieae containing Zannichellia (2 spp., 1 new) and Althenia (4 spp.).—J. M. C.

Giesenhagen's Lehrbuch.—The fourth edition of GIESENHAGEN'S *Textbook of botany*[5] is not essentially different from the third edition, which was reviewed in this journal.[6] A few details have been modified, a few figures added, and the text in general brought up to date. The most noticeable change is the presentation of current theories, which many botanists believe to be out of place in a textbook. The author, however, believes that important theories and problems, even though still lacking definite proof, are valuable if the presentation makes it clear that they are only theories.—CHARLES J. CHAMBERLAIN.

Plants of Bolivia.—The fourth part of the enumeration of Bolivian plants collected by MIGUEL BANG has been issued as a Bulletin of the New York Botanical Garden.[7] The previous parts appeared in the *Memoirs of the Torrey Botanical Club* in 1893, 1895, and 1896. The present part completes the enumeration with the exception of Gramineae, and contains descriptions of 227 new species. Three new genera are also characterized: *Tournefortiopsis* and *Poederiopsis* (both Rubiaceae), and *Vassobia* (Solanaceae).—J. M. C.

Genera Siphonogamarum.—The eleventh fascicle of DALLA TORRE and HARMS'S[8] list of the genera of seed-plants completes the work, the last entry being Zyzygium. There are included also title-page, preface, and list of families (290 in number).—J. M. C.

NOTES FOR STUDENTS

Morphology of bryophytes.—Several studies of bryophytes come to hand almost simultaneously. DACHNOWSKI[9] has been working again upon the much-studied *Marchantia polymorpha*. The growth of the rhizoids, the origin of dorsiventrality, the plagiotropic position, the formation of reproductive organs, and fertilization have been reexamined. His conclusions are in part like those of previous investigators and in part a slight modification of them. He finds moisture the most

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[5] GIESENHAGEN, DR. K., Lehrbuch der Botanik. Fourth edition with 561 illustrations. 8vo. pp. xiv+463. *figs. 561.* Stuttgart: Fr. Grub. 1907

[6] BOT. GAZETTE **37**:225. 1904.

[7] RUSBY, HENRY H., An enumeration of the plants collected in Bolivia by MIGUEL BANG. Part 4. Bull. N. Y. Bot. Garden **4**:309–479. 1907.

[8] DALLA TORRE, C. G. DE, and HARMS, H., Genera Siphonogamarum ad systema Englerianum conscripta. Fasc. 11. pp. 801–921. Leipzig: Wilhelm Engelmann. 1907. *M* 6.50.

[9] DACHNOWSKI, A., Zur Kenntnis der Entwicklungs-Physiologie von *Marchantia polymorpha*. Jahrb. Wiss. Bot. **44**:254–286. *figs. 4. pl. 4.* 1907.